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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/646,527	09/15/2000	Shigenobu Matsuda	5860-0017	1631

7590

09/27/2002

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EXAMINER

CHANG, VICTOR S

ART UNIT

PAPER NUMBER

1771

6

DATE MAILED: 09/27/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/646,527

Applicant(s)

MATSUDA ET AL.

Examiner

Victor S Chang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 September 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 5-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>3</u> . | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, claims 1-4 in Paper No. 5 is acknowledged. The traversal is on the ground(s) that the unity of invention was acknowledged by the International Preliminary Examination Authority (Response, page 6, last paragraph), and that the microporous membrane of the instant invention in the claims of Group can be produced for the first time by the production process of the process claims of Group II (page 7, 1st paragraph). Further, Applicants argue that Groups II and III, as well as II and I, involving one or more of the same or corresponding special technical feature, i.e., a "gel-like shaped product" (page 7, 2nd paragraph). This is not found persuasive because thermally induced phase separation process for forming a "gel-like shaped product" is known, and as such it fails to make contribution over prior art, and not applicable as a special feature.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 2 and 3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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In claims 2 and 3, each claim recites twice that the average pore size is measured by "scanning electron microscopy", it appears to the Examiner such recitation does not add any weight or limitation to the claims, and as such the Examiner suggests delete the pore size measuring method from these claims.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Meguro et al. (US 5514461).

Megruo's invention is directed to a polyvinylidene fluoride porous membrane of an asymmetrical structure (column 2, lines 31-32). The vinylidene fluoride resins are homopolymers of vinylidene fluoride or copolymers which contain not less than 70 mol % of vinylidene fluoride (column 3, lines 52-55). The vinylidene fluoride porous membrane is manufactured by a commonly employed melt-extrusion processing to form a film from a composition comprising a vinylidene fluoride resin, a plasticizer, and optionally, a good solvent, then extracting the plasticizer or the good solvent (column 4, lines 42-48). The mean flow pore diameter measured by a half dry method is 0.01 to 10 μ , and the ratio of the maximum pore diameter measured by a bubble point method to the mean flow pore diameter is less than 2.0 (column 5, lines 23-25). In Table 1,

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Meguro discloses that the average pore diameter in a surface P_1 is larger than the average pore diameter P_3 , and the average pore diameter in the other surface P_2 is less than the average pore diameter P_3 (column 8, lines 21-25). Further, Meguro teaches that the porous membrane has penetrating pores having a diameter falling in a narrow range (column 5, lines 53-54), which is believed to be inherently a percolation structure.

Claims lack novelty.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meguro et al. (US 5514461).

The reference is again relied upon substantially as set forth above. For claims 1-4, if, for the purpose of anticipation, the reference is believed to teach such a number of different embodiments that the specific parameters of each of the claims cannot be considered to be in possession of the skilled artisan, the Examiner believes that, alternatively, each of the claimed embodiments is at most a minor modification to one of ordinary skill. Note particularly that in the absence of unexpected results, it would have been obvious to one of ordinary skill in the art to modify Meguro's polyvinylidene fluoride

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porous membrane with a suitable plasticizer and solvent system and surface cooling process, motivated by the desire to achieve a suitable average pore size in specific regions, as taught by Meguro (column 4, lines 58-60).

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In addition, the following references are cited of interest for making polyvinylidene fluoride porous membranes:

US 5626805 to Meguro et al.

US 5736051 to Degen et al.

US 5022990 to Doi et al.

US 5277811 to Moya

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor S Chang whose telephone number is 703-605-4296. The examiner can normally be reached on 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel H Morris can be reached on 703-308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

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VSC

April 7, 2003